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State Fire Marshal Says Dive Into Pool Chemical Safety

With the arrival of warmer temperatures, the Patrick Administration is advising home pool owners to avoid potential problems by making sure they store and handle pool chemicals with care this summer.

State Fire Marshal Stephen D. Coan said, "This summer dive into the depths of pool chemical safety and prevent painful burns and costly clean-ups." Memorial Day weekend 2007, a woman was preparing chemicals in her kitchen to open up her backyard pool for the season and caused a dangerous chemical reaction, injuring herself and causing a significant hazardous materials incident. Coan said, "She made the dangerous mistake of putting water in the powder, rather than putting the powder in the water."

"Pool chemicals may become a hazard when they become wet with a small quantity of water or when they are improperly mixed with other chemicals or reactive materials," said Laurie Burt, Commissioner of the Massachusetts Department of Environmental Protection (MassDEP). "It is important to keep pool chemicals dry. Store them in separate containers with lids in a locked shed away from the house and pool."

Some safety tips are:

- Read and follow the manufacturer's instructions very carefully.
- Children should never handle pool chemicals and even teenagers should not be allowed to do so with constant adult supervision.
- Put a lid on chemical containers every time. Containers left open, allow water to mix in the containers and react with the chemicals. Remember powder in the water, not water in the powder.
- Clean tools and equipment used to handle one chemical properly before using them with a different chemical.

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- Spilled substances (e.g., from damaged containers or from sloppy handling) must be cleaned up and disposed of properly to avoid creating an inadvertent mixing or chemical reaction.

Liquid chemicals, such as sodium hypochlorite (bleach), if spilled, can leak into other containers or seep into cracks in the floor. Liquids, because of their properties, can create hazards not associated with solid or granular products and must be carefully handled.

Mixing chemicals is likely to lead to a chemical reaction that may generate temperatures high enough to ignite nearby combustible materials. Mixing can also lead to the release of highly toxic and corrosive chlorine gas. Coan said, “Last year a man mixing pool chemicals in his attached garage created a chlorine gas cloud in his family’s home that took firefighters several hours to dissipate.”

Reactions have also been traced to the mixing of old (partially decomposed) and new chemicals of the same type. The mixing of pool chemicals with completely unrelated materials such as swept material from the floor, oily rags, and other miscellaneous materials have been known to cause strong reactions with the potential for a resulting fire.

Make pool chemical storage area housekeeping a priority. Pool owners should conduct a review of how they store their pool chemicals and especially look for and correct situations where chemicals could be intentionally or accidentally mixed:

- Separate incompatible substances; avoid storing containers of liquids above containers of other incompatible substances. The most common pool chemicals are inherently incompatible with each other so be sure to keep them apart.
- Do not mix old chemicals with fresh chemical, even if they are the same type.
- Use separate, designated scoops for each chemical. Handle only one chemical at a time and make sure that tools used with one substance are not used with another unless all residues are removed.
- Use separate, designated containers for cleanup of spilled materials to avoid inadvertent mixing of spilled substances. Consult your local hazardous waste disposal facility for more detailed information on proper waste disposal; and
- Don’t allow rags, trash, debris, or other materials to clutter hazardous material storage area. Keep combustible and flammable substances away.
- Lock your storage area to keep children, pets and unauthorized users out.

The same chemicals that keep swimming pools clean and clear all summer long; can also cause serious damage, injury or death if used improperly. Most people have heard that it is not safe to mix bleach and ammonia – but it is also unsafe to mix a number of other pool chemicals.

Coan said, “Local fire departments and hazardous materials teams often respond to emergencies involving swimming pool and Jacuzzi chemicals. The costs incurred by the

pool owner for emergency measures can be extremely expensive. These measures must be necessary to prevent or address any injury to people or harm to the environment.” The Department of Fire Services includes the Hazardous Materials Response division that coordinates six regional hazardous materials teams across the state.

“Invest in your family’s safety by taking the time to do some research and educate yourself on how to store and use pool chemicals safely,” said MassDEP’s Burt. “There are many online resources, including our MassDEP web site (www.mass.gov/dep/recycle/hazardous/hhwhome.htm), the U.S. Environmental Protection Agency (<http://www.epa.gov/oem/docs/chem/spalert.pdf>) and manufacturers web sites that are very helpful.”